

REMARKS

This Amendment and Response to Final Office Action is being submitted in response to the final Office Action mailed December 28, 2005. Claims 1-14, 18, and 19 are pending in the Application.

Claims 1-4 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766). Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766) and Nilsson (USPN 6,081,811). Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 4, and further in view of Nilsson (USPN 6,081,811). Claims 6, 13, and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 1, and further in the view of Waldin et al. (USPN 6,651,249). Claims 7-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932), Chamberlain et al. (USPN 6,735,766), and Waldin et al. (USPN 6,651,249) as applied to Claim 6, and further in the view of Nilsson (USPN 6,081,811).

In response to these rejections, independent Claims 1 and 19 have been amended to further clarify the subject matter which Applicants regard as the invention, without prejudice or disclaimer to continued examination on the merits. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments and remarks presented herein, reconsideration of the Application is respectfully requested, without further search.

Rejection of Claims 1-4 and 18 under 35 U.S.C. 103(a) –
Klein et al. in view of Chamberlain et al.

Claims 1-4 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766). Claim 1 is an independent claim and Claims 2-4 and 18 are dependent claims, depending from Claim 1 or an intervening dependent claim.

While Examiner has rejected Claims 1-4 and 18 as being unpatentable over Klein et al. in view of Chamberlain et al., Applicants respectfully submit that:

1. Klein et al. do not teach or suggest redundant databases contained in the same network device connected by an internal communications bus and, therefore, require a modification to meet the claimed invention;
2. Chamberlain et al. do not teach or suggest a means for a configuration database storing data to configure and to operate a network device; and
3. A first and a second printed circuit board coupled to an internal communications bus are not obvious in the art when used for the present invention.

Applicants have amended independent Claim 1 so as to incorporate the limitations discussed herein, and independent Claim 19 has been similarly amended. Specifically, independent Claim 1 has been amended to recite:

1. A method of operating a network device, wherein the network device comprises a first printed circuit board including a first processor component, a second printed circuit board including a second processor component, ***and wherein said first and said second printed circuit boards are coupled to an internal communications bus configured to enable communication between said first and said second printed circuit boards***, said method comprising:
 - providing a first configuration database containing data for ***configuring and operating*** the network device;
 - operating the network device with the first configuration database as a primary configuration database;
 - providing a second configuration database containing backup data corresponding to the data contained in the first configuration database;

operating the network device with the second configuration database as a backup configuration database;
replicating modifications made to the first configuration database to the second configuration database;
detecting a configuration database upgrade operation;
stopping replication of data from the first configuration database to the second configuration database;
upgrading the second configuration database while said first configuration database continues to provide configuration data to said network device;
maintaining the first configuration database through the first processor component;
operating the network device with the first printed circuit board as a primary printed circuit board and the first processor component as a primary processor component;
maintaining the second configuration database through the second processor component;
operating the network device with the second printed circuit board as a backup printed circuit board and the second processor component as a backup processor component;
switching over to use the second configuration database as the primary configuration database; and
switching over to use the second printed circuit board and second processor component as the primary printed circuit board and the primary processor component.

Klein et al. do not disclose redundant databases contained in the same network device

Klein et al. teach a primary and a secondary transaction system with each system connected to a database.¹ The primary and secondary transaction systems are connected via a system network connection infrastructure.² Klein et al. teach the need to have extensive redundancy or backup systems to minimize any adverse impact relating to a failure of any component within the system.³ Therefore, Klein et al. teach away from using redundant databases within the same physical system connected through an internal communications bus.

Examiner states on pages 2-3 of the final Office Action mailed December 28, 2005, that the use of dual processors within a single computer system is well known and used in the art to

¹ See U.S. Patent No. 6,157,932, Fig. 1.

² See U.S. Patent No. 6,157,932, col. 3, lines 53-60.

³ See U.S. Patent No. 6,157,932, col. 1, lines 19-25.

integrate two databases and two processors within a computer system as has been shown in Klein et al. Applicants respectfully disagree because Klein et al. teach separate computer systems connected via a network connection, and not redundant systems contained within the same network device.⁴

Applicants' invention includes redundant databases contained in the same network device on separate printed circuit boards coupled to an internal communications bus for communication. Independent Claim 1 has been amended to incorporate the limitation of: *said first and said second printed circuit boards are coupled to an internal communications bus configured to enable communication between said first and said second printed circuit boards*. Additionally, independent Claim 19 has been amended to incorporate the limitation of: *said first and said second processor components communicate via an internal communications bus*.

Generally, to establish *prima facie* obviousness of the claimed invention, all the cited limitations must be taught or suggested by the prior art. *In re Royka*, 490 Fed. 2nd 981 (C.C.P.A., 1974). A statement that modifications of the prior art to meet the claimed invention would have been well within the ordinary skill of the art at the time the claimed invention was made because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish *prima facie* case of obviousness without some objective reason to combine the teachings of the references. M.P.E.P. §2143.02, citing *Ex Parte Levengood*, 28 U.S.P.Q. 2nd 1300 (Bd. Pat. App., 1993). Applicants submit that Klein et al. needs to be modified to provide the primary and secondary databases within the same network device, and that Klein et al. specifically teach away from this to provide maximum redundancy.

Chamberlain et al. do not teach a means for a configuration database storing data to configure and to operate a network device

Examiner states on pages 6-7 of the final Office Action mailed December 28, 2005, that Klein et al. "fails to disclose means wherein the configuration database contains data for

⁴ See U.S. Patent No. 6,157,932, Fig. 1 and col. 3, lines 53-60.

configuring the network device.” Examiner notes that this is well known in the art and is taught in Chamberlain et al. by teaching “a system for database management and upgrading wherein the configuration database contains data for configuring the network device (col. 3, line 66 – col. 4, line 3).” Applicants respectfully disagree.

Chamberlain et al. teach a method for “upgrading a software application and providing an installer program with notice of an upgrade’s existence so that the installer can modify a configuration database to reflect the upgrade”.⁵ The configuration database is an installer registry where new software products are registered upon installation and removed when uninstalled.⁶ The configuration database includes stored information comprising the installed state of an application, features of the application which are and which are not installed, whether the application should be run locally or from a source, and paths to the application.⁷ Further, the stored information is stored at install time.⁸

Applicants submit that the configuration database of Chamberlain et al. does not contain data for configuring and operating a network device. The configuration database of the present invention comprises data for operating the network device. This data includes the installed circuit boards on the network device including serial number, version number, installed location on the network device; installed ports on the installed circuit boards; service connections between ports; logical and physical connections; ATM groups and interfaces; and software versions. The data is continuously updated as configurations change and not solely on the installation of a new software application as in Chamberlain et al.

Independent Claim 1 has been amended to incorporate the limitation of: providing a first configuration database containing data for *configuring and operating* the network device. Additionally, independent Claim 19 has been amended to incorporate the limitation of: said first configuration database containing data for *configuring and operating* the network device.

⁵ See U.S. Patent No. 6,735,766, col 3, lines 66-67 and col. 4, lines 1-3.

⁶ See U.S. Patent No. 6,735,766, Fig. 5 and col. 9, lines 26-30.

⁷ See U.S. Patent No. 6,735,766, col. 1, lines 28-37.

⁸ See U.S. Patent No. 6,735,766, col. 1, lines 37-38.

A first and a second printed circuit board coupled to an internal communications bus
are not obvious in the art.

Examiner states on page 7 of the final Office Action mailed December 28, 2005, that it would be obvious to one of ordinary skill in the art to modify Klein et al. to use printed circuit boards in the construction of the primary and secondary machines. Applicants have amended independent Claims 1 and 19 to add the limitation of an internal communications bus for communication between the first and second configuration databases within the network device.

As discussed above, Klein et al. teach away from implementing the primary and secondary databases within the same system for redundancy and backup purposes.⁹ Applicants respectfully submit that this is not an obvious modification of Klein et al. because Klein et al. teach a network connection between separate systems and teach the need for redundancy in the system.

In light of the amendments to Claim 1, and the arguments presented herein, Applicants respectfully submit that the rejection of Claims 1-4 and 18 under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766) has been traversed. Therefore, withdrawal of this rejection is respectfully requested.

⁹ See U.S. Patent No. 6,157,932, col. 1, lines 19-25.

Rejection of Claim 19 under 35 U.S.C. 103(a) –
Klein et al. in view of Chamberlain et al. and Nilsson

Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766) and Nilsson (USPN 6,081,811). Claim 19 is an independent claim.

Applicants have amended independent Claim 19 so as to incorporate the limitations discussed above. Specifically, independent Claim 19 has been amended to recite:

19. (Currently Amended) A method of managing a telecommunications network, comprising:

- operating a network device with a first printed circuit board having a first processor component, and a first configuration database as a primary configuration database, said first configuration database containing data for ***configuring and operating*** the network device;

- maintaining the first configuration database through the first processor component;

- operating the network device with a second printed circuit board having a second processor component, and a second configuration database as a backup configuration database, said second configuration database containing backup data corresponding to the data contained in the first configuration database, ***and wherein said first and said second processor component communicate via an internal communications bus***;

- maintaining the second configuration database through the second processor component;

- replicating modifications made to the first configuration database to the second configuration database;

- sending SQL commands from network management server to the network device;

- executing the SQL commands to write a software load record indicating a configuration database upgrade in a table within the first configuration database;

- replicating the changes to the first configuration database to the second configuration database;

- stopping replication of data from the first configuration database to the second configuration database;

- upgrading the second configuration database while the first configuration database continues to provide configuration data to applications executing on the network device;

- switching over to use the second configuration database as the primary configuration database; and

switching over to use the second printed circuit board and second processor component as the primary printed circuit board and the primary processor component.

In light of the amendments to independent Claim 19, and the arguments presented herein, Applicants respectfully submit that the rejection of Claim 19 under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) in view of Chamberlain et al. (USPN 6,735,766) and Nilsson (USPN 6,081,811) has been traversed. Therefore, withdrawal of this rejection is respectfully requested.

Rejection of Claim 5 under 35 U.S.C. 103(a) –
Klein et al. and Chamberlain et al. in view of Nilsson

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 4, and further in view of Nilsson (USPN 6,081,811). Claim 5 is a dependent claim which depends on Claim 4 which is a dependent claim of Claim 1.

In light of the amendments to Claim 1, and the arguments presented herein, Applicants respectfully submit that the rejection of Claim 5 under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 4 has been traversed. Therefore, withdrawal of this rejection is respectfully requested.

Rejection of Claims 6, 13, and 14 under 35 U.S.C. 103(a) –
Klein et al. and Chamberlain et al. in view of Waldin et al.

Claims 6, 13, and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 1, and further in the view of Waldin et al. (USPN 6,651,249). Claims 6, 13, and 14 are dependent claims all of which depend on Claim 1.

In light of the amendments to Claim 1, and the arguments presented herein, Applicants respectfully submit that the rejection of Claim 6, 13, and 14 under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932) and Chamberlain et al. (USPN 6,735,766) as applied to Claim 1, and further in the view of Waldin et al. (USPN 6,651,249), has been traversed. Therefore, withdrawal of this rejection is respectfully requested.

Rejection of Claims 7-12 under 35 U.S.C. 103(a) –
Klein et al., Chamberlain et al., and Waldin et al. in view of Nilsson

Claims 7-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932), Chamberlain et al. (USPN 6,735,766), and Waldin et al. (USPN 6,651,249) as applied to Claim 6, and further in the view of Nilsson (USPN 6,081,811). Claims 7-12 are dependent claims either directly or ultimately dependent on Claim 1.


In light of the amendments to Claim 1, and the arguments presented herein, Applicants respectfully submit that the rejection of Claim 7-12 under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (USPN 6,157,932), Chamberlain et al. (USPN 6,735,766), and Waldin et al. (USPN 6,651,249) as applied to Claim 6, and further in the view of Nilsson (USPN 6,081,811), has been traversed. Therefore, withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicants would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

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